TROPICAL CYCLONE OF MARCH 1939 IN THE VICINITY OF NEW CALEDONIA AND OVER THE LOYALTY ISLANDS

By WILLIS E. HURD

The Weather Bureau has received, through the United States Hydrographic Office, a report submitted by the commanding officer of the French S. S. *Dumont d'Urville*, a colonial dispatch vessel, on an intense tropical cyclone, which occurred on March 25, 1939, in the vicinity of New Caledonia and later crossed the Loyalty Islands to the eastward going on a southeasterly course.

On March 25 the S. S. *Dumont d'Urville* was anchored in the Bay of Uala, Art Island, north of New Caledonia. In the early morning the wind was light, the barometer was falling, and there were heavy showers. At 9 a. m. the rain became heavier and more continuous, with low visibility. At 11 a. m. the ship's barometer had fallen to 746 mm. (29.37 inches), and the wind, hauling to south of east, was of force 7 to 8. At 12:25 p. m. the barometer had dropped to 736 mm. (28.99 inches), and the wind had risen to force 10–11. At 1:05 p. m., with barometer at 730 mm. (28.74 inches), the wind was of hurricane force, and the ship was dragging anchor. The wind continued at hurricane force until well into the afternoon. The center of the cyclone passed over the ship at 2:30 p. m., accompanied by violent squalls from varying directions, and a low barometer of 711 mm. (27.90 inches). At this time the sky was brightened by a few feeble rays of the sun.

According to the commanding officer, the—

> cyclone probably formed to the northeast of Belep, between Huon and the New Hebrides * * *. It reached the northern part of New Caledonia (Paaba Island) around 1600. It went along the east coast of the island and passed over Ouvea at about 2200, where there were no casualties, but much damage done. A small vessel, *Le Phoque*, at anchor in the lagoon of Ouvea, near Wakat, was blown bodily onto the beach at 0100 on the 26th.
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> The storm blew itself out on the 27th about 300 or 400 miles southeast of Noumea, between the Fiji Islands and the New Hebrides, after having caused much damage at Mare and at Walpole.
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> At Mare Island, Loyalty Group, "three missions," according to the report, were demolished, 87,000 coconut trees were lost, and two natives killed.

ADDITIONAL REPORT ON TYPHOONS AND DEPRESSIONS OVER THE FAR EAST, MAY 1939

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Typhoon, May 26–31, 1939.—A low pressure area formed over the northern part of the China Sea with a center close to and east of the Paracel Islands and Reefs. As a depression this center moved northwest to a position about 150 miles east of southern Hainan Island where it recurved to the northeast and intensified to typhoon strength (shortly before 6 a. m. May 28). For 1 day it moved along this course to a location about 100 miles west of Pratas where it remained stationary until the morning of May 30, when it weakened as it shifted to a westerly course, thus entering the continent close to and east of Fort Bayard during the forenoon of May 31. No trace of it could be found on the afternoon weather map of that day.

On May 28, while the storm was moving northeast, it intensified to typhoon strength, as is well shown by the observations made on board the S. S. *President Coolidge*. The ship was enroute from Hong Kong to Manila and passed a short distance west of Pratas during the afternoon hours of May 28. During this part of her voyage, a pressure of 29.37 in. (746.0 mm.) was reported with east and east-southeast winds, veering to the southeast, force 8 to 10, accompanied by torrential rain and dense, violent rain squalls. The vessel was at such a distance from the center that the pressure, though low, remained steady throughout the afternoon. May 29, at 6 a. m., from Hong Kong came the report of pressure 750.1 mm. (29.531 in.) with northeast winds force 3. At the same time, Gap Rock reported 749.3 mm. (29.500 in.) and north winds force 6. Ships within 150 miles of the center during the period from May 28 to May 30 had winds of force 3 to 7 and pressure values ranging from 748.5 mm. (29.468 in.) to 750.5 mm. (29.547 in.).

From May 24 to 26, two air streams were converging over the northern part of the China Sea; one from the southwest, flowing over Siam, the southern part of Indochina, the Straits Settlements and the northwestern part of Sumatra. The southwesterly current extended to Manila, where it was overriding the southeasterly current, as shown by the movement of the high clouds and one or two balloon ascents. Only at Bandon was there any sign of strength; there the velocities reached values as high as 50 k. p. h. On May 27, when the depression had definitely formed and was moving, Bandon had velocities up to 80 k. p. h. and Bangkok reported values up to 50 k. p. h. Medan, on Sumatra Island, had velocities as high as 60 k. p. h. This southwesterly current reached Palembang but did not extend any farther to the east over the territory of the Netherland East Indies, The southeasterly current over the Philippines hardly ever reached velocities of 45 k. p. h. at any altitude up to the afternoon of May 26. On May 27, however, Manila and Dagupan had maximum values of 60 and 75 k. p. h., the directions being from the southeast and south quadrants. The highest velocity reported from Guam during these few days was 45 k. p. h., the directions of the air stream there being east and east-southeast.

As the storm moved along its short northeasterly course and intensified to typhoon strength (May 28 and 29) the situation remained practically the same as that of May 27, as far as the available data indicate. It is to be noted that the southwesterly current did not reach Zamboanga, although the surface observations received from the S. S. *Pathfinder*, anchored close to the western coast of northern Palawan, indicate that the ship was under the influence of the southwesterly air stream. When the disturbance began to move westerly toward the continent, diminishing in strength at the same time, the velocities at Bandon still maintained values as high as 50 k. p. h. and the southwesterly air stream extended to Zamboanga, (May 30), and then to Cebu, (May 31). The velocities at Zamboanga and Cebu were not higher than 40 k. p. h. As the depression disappeared over the continent, the southwesterly current extended up to San Bernardino Strait and perhaps a short distance into the Pacific. It also showed its presence aloft over Menado during the last three days of the month. Only a few ascents were received from Tarakan during the course of this storm, and these were almost always identical with those of Zamboanga. A study of the velocities seems to indicate that the activity came from the southwest current. The persistence of velocities of 50 k. p. h. and higher over Siam stations, even after the disturbance had disappeared over the continent, and the extending of the current to Zamboanga and Cebu, even to the locality of San Bernardino Strait, shows the power of that air stream.